METHODS OF FORMING VERTICAL POWER DEVICES HAVING DEEP AND SHALLOW TRENCHES THEREIN

Abstract of the Disclosure

Methods of forming vertical power devices include the steps of forming first and second deep trenches in a semiconductor substrate having a drift region of first conductivity type therein that extends into a mesa defined between first and second opposing sidewalls of the first and second deep trenches, respectively. Steps are also performed to form a UMOSFET in the mesa and form first and second base shielding regions of second conductivity type that extend into the mesa and are self-aligned with the first and second opposing sidewalls.

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